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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,966	11/16/2001	Andreas Himmler	112740-377	3313

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EXAMINER

VALENCIA, DANIEL E

ART UNIT PAPER NUMBER

2874

DATE MAILED: 08/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,966

Applicant(s)

HIMMLER, ANDREAS

Examiner

Daniel E Valencia

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The communication filed May 23, 2003 has been carefully studied by the Examiner. In accordance with the communication, including the petition filed, prosecution has been reopened, claims 1, 7, and 8, have been amended and claims 5 and 6 have been cancelled.

The indicated allowability of claim 6 is withdrawn in view of the newly discovered reference(s) to Danziger U.S. Patent No. 6,404,952 and Unger U.S. Patent No. 4,415,227. Rejections based on the newly cited reference(s) follow. This Office Action is **not** made final.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites "the light source is arranged asymmetrically with respect to an optical axis of the optical waveguide"; however, claim 1, on which claim 2 depends, recites exactly the opposite ("light source lies on an optical axis of the optical waveguide").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Danziger in view of Unger. Refer to the appropriate drawings or parts of the specification. Danziger discloses an optical communication system for exciting modes in a waveguide (fig. 20a-20c) with essentially all the elements of the abovementioned claims. Regarding claim 1, Danziger discloses the device having an entry face (194) onto which a part of a coherent beam (192) of light source (3) is directed; and a reflector (190) for deflecting another part of the coherent beam of the light source onto the entry face such that an interference pattern for exciting various modes is produced (col. 8, lines 59-bottom), wherein the light source lies on an optical axis of the optical waveguide. Danziger's disclosure shows that the reflector has a planar pattern for creating interference (col. 9, lines 25-34), which would inherently be holographic, as explained in claims 3, 4, 7, and 8.

Although Danziger does not explicitly state that the reflector is cone shaped, the reference shows the reflecting planes in a variety of different positions, which would strongly suggest that the planes are adjustable for exciting different modes. One of ordinary skill in the art would recognize the advantage of adjusting the planes to form a

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conical structure. Additionally, Unger discloses a cone shaped tapered waveguide for exciting modes in the optical waveguide (fig. 1 and col. 2, lines 20-55). Unger also discloses that the light is reflected such that it interferes with itself (col. 3, lines 45-48). Unger teaches that this cone shaped taper is advantageous, because it allows an optical signal to change modes (col. 3, lines 54-bottom). Therefore, one of ordinary skill in the art at the time of invention would have found it obvious to adjust the reflecting planes of Danziger to take a conical shape.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Starodubov U.S. Patent No. 6,344,298 discloses a conical grating.

Rizkin U.S. Patent No. 5,629,996 discloses a holographic internal reflection beam transformer.

The following U.S. Patents teach a conically shaped internal reflector for a similar purpose as that proposed by the claimed invention:

1. Macedo 4,443,700
2. Haruta 5,633,967
3. Smolinsky 3,864,019
4. Wach 6,208,783
5. Brener 6,411,757
6. Youki 6,094,517

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel E Valencia whose telephone number is (703)-305-4399. The examiner can normally be reached on Monday-Friday 9:30-6:00.

The fax phone numbers for the organization where this application or proceeding is assigned are (703)-308-7724 for regular communications and (703)-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.



DEV
August 1, 2003



Brian Healy
Primary Examiner